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Designed for persons involved in teaching the deaf and hard of hearing, the booklet provides training in the fundamentals of speech reading, a bisensory (eye plus ear) approach to communication. Basic principles in teaching speech reading are defined, including the advantages of recognition of sounds as opposed to description, use of audible and inaudible stimuli, advantages of contextual exercises, benefits of group instruction, and teaching easier sounds first. Also provided are 20 voice communication lists designed to evaluate the amount of voice which may be sent or received by a patient and a test of visual recognition ability for determining lip reading skill. Directions for using both are stated. Lessons in speech reading are included, beginning with vowels and progressing through the visible consonants to connected speech. The lessons treat recognition training (exploring the characteristics of a sound), and drills with sounds, sound combinations, and words. (JB)

AUDIO-VISUAL SPEECH READING

A Manual for Training the Hard-of-Hearing in Voice Communication

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During the past few years we have received an increasing number of requests for copies of the publication, Audio-Visual Speech Reading. Dr. James C. Kelly, the author, died in 1960. The small supply of the publication which remained at the time of his death was soon depleted. We believed at that time that if we merely reprinted the manual, readers might regard the material as "dated". But the pamphlet is still in demand. Partly to satisfy requests for it and partly to honor Dr. Kelly for his many years of work in aural rehabilitation, we reproduce the manual, with the former Mrs. Kelly's permission, as its author left it.

Copies of this manual are available for one dollar from the Speech and Hearing Clinic, University of Illinois, 601 East John Street, Champaign, Illinois.

John J. O'Neill, Director
Speech and Hearing Clinic

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AUDIO-VISUAL SPEECH READING

A

Manual for Training the Hard-of-Hearing in Voice Communication

J.C. Kelly

Lipreading is the skill of recognizing the movements which accompany speech so that this speech may be more intelligible to the person receiving it. The "art" of lipreading has been taught or acquired for more centuries than there is a record of the teaching. A common conception of lipreading is that it is a form of communication by itself, substituting for hearing or taking the place of hearing as a means of receiving communication by voice. A chapter in Nitchie (3) is titled, "The Eye as a Substitute for Deaf Ears". Such a conception greatly influences the methods of teaching lipreading, most of which were devised in a previous century when hearing aids as we now know them were not available. Unless one wishes to communicate behind a prison guard's back or read the dialogue in old silent movies, there is little reason to consider lipreading as a silent form of communication. With the coming of the modern hearing aid, the eye is no longer a substitute for the ear but a supplement to the ear. These two, vision and audition, complement one another at all levels of hearing efficiency; such is the interpretation of recent investigation in hearing.

The hearing aid has changed our understanding of deafness. Time was when all persons with impaired hearing had similar listening behavior. Modern hearing evaluation must consider what the person hears when wearing a hearing aid and after auditory and visual discrimination training in communication. Knowing the potential of the hearing aid and auditory training, therapists are no longer limited to the teaching of lipreading as a substitute for hearing. In place of the silent methods stressing kinaesthetic and visual stimulation, we must now consider audible methods aiming at bisensory reception with the eye helping the ear rather than substituting for it. It is better to call this speech-reading rather than lipreading, for the former term is broader than the latter.

Recent investigation has pointed up the advantage of using the eye plus the ear rather than the eye instead of the ear. Hudgins (2) has indicated that children with profound hearing losses benefit from combined stimulation and communication scores are better even when the impaired ear brings no intelligible response. Table I, from Hudgins, shows the communication scores of 14 pupils with profound hearing loss. These are children who should benefit least from the audible component in communication by voice -- children who are frequently considered unable to benefit from a hearing aid. If such gains can be measured with such children, those with less severe hearing impairment should be able to gain even more. The reader should also note an excellent study, also by Hudgins (5), which adds substantially to the above discussion.

O'Neill (4) in a recently reported study of normal hearing persons shows that they, like the profoundly deaf, make gains in voice communication when vision is added to audition. The second table, from O'Neill, shows the recognition scores for vowels and consonants when combined audio-visual reception is compared to auditory reception alone. O'Neill reports that with normal persons "vision contributed 44.5% to the understanding of vowels, 72% for consonants, 64.1% for words, and 25.9% for phrases".

Table I The Average Score of a Group of Profoundly Deaf Pupils Obtained from Tests of Lipreading, Hearing, and Lipreading and Hearing.

Pupils	Hearing Loss (in db) Left ear	Right ear	Age	Lipreading	Hearing	Both
B.C.	98	95	13-8	58	7	70
K.C.	78	92	14-0	42	0	53
B.P.	87	88	12-7	52	41	72
C.W.	77	78	14-0	40	0	40
C.C.	82	83	11-9	30	0	44
B.D.	108	105	14-8	44	7	74
B.H.	97	97	15-0	40	0	42
W.K.	103	105	14-10	30	0	45
A.R.	78	100	16-2	40	0	66
B.S.	75	78	15-7	36	10	76
H.S.	88	92	11-4	30	0	42
W.T.	93	95	12-3	32	0	76
R.T.	83	87	11-7	37	0	50
L.W.	98	95	10-8	40	0	40

(From Hudgins, Clarence V., "Problems of Speech Comprehension in Deaf Children." The Nervous Child, Vol. 9, #1, Jan., 1951)
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Table II Visual-Auditory and Non-Visual-Auditory Recognition Scores for Consonants and Vowels (4 S/N ratios)

Sound	Visual-Auditory	Non-Visual-Auditory
o	76	51
i	74	59
e	68	57
u	64	43
ʊ	63	39
ɛ	58	51
ɪ	58	49
s	86	71
f	84	40
ʃ	83	53
p	80	41
k	77	46
θ	75	55
t	71	55

(From O'Neill, "Visual Components of Oral Symbols", Journal of Speech and Hearing Disorders, Vol. 19, #4, Dec., 1954)
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Table III shows the effect of vision, audition, and combined audio-visual stimulation on voice communication. The subjects were hard-of-hearing children under instruction in the Summer Residential Center sponsored by the Division of Services for Crippled Children, University of Illinois. Six students were given three of the series of communication tests that appear in the following chapter. Students were seated in tablet arm chairs in an arc, each student being ten feet from the speaker. One communication list was given by voice alone, the speaker facing away from the listeners. A second was given with inaudible voice, but with the speaker facing the listeners. The third was given with normal voice while the speaker faced the listeners. The conditions of communication were auditory, visual, and audio-visual. The visual communication scores were lowest for both words and letters. The auditory communication scores without vision were better. Four of the six children wore hearing aids and the two who did not could hear reasonably well without aids. However, the combined visual and auditory communication scores were much better than either of the other two. The visual scores could correspond to the lipreading skill as a silent communication -- a substitute for hearing. The auditory scores represent the performance with hearing aids. The third set of communication scores are much better and show the advantage of combining vision and audition in communication. It may be noted that socially adequate communication is achieved with five of the six children, but only when the combined stimulation is used.

Table III Visual, Auditory, and Audio-visual Communication with Hard of Hearing Subjects.

I. Visual Only

Subject	Words	Letters
A	30	65
B	21	63
C	33	60
D	52	75
E	10	45
F	50	78
Mean Per cent	32.67%	64.33%

II. Auditory Only

A	88	98
B	81	86
C	56	73
D	38	77
E	25	30
F	19	57
Mean Per cent	51.17%	70.17%

III. Audio-visual

A	93	100
B	93	96
C	82	100
D	75	96
E	69	63
F	88	94
Mean Per cent	83.33%	91.50%

That auditory and visual discrimination of speech should complement each other so well is not surprising. 80% of communication mistakes are due to the consonant sounds, which are of weak intensity compared to vowels. The consonant sounds that are very difficult to hear are quite easily seen when a listener watches the face. For example, the "f" and "v", the "th" sounds, and the "p" are all difficult to hear yet easily seen. Vowel sounds are much more easily heard than consonants and do not cause the hard-of-hearing listener so much trouble. Add the audible and visible components together and good communication may result.

Not all sounds have equally visible movement. The beginning lipreader should be given material that will allow him to make the greatest immediate progress. Since vowels are easier to recognize than consonants because of the fact that they are louder, it would seem desirable to begin the study with vowels. The most recognizable vowels are those represented by the alphabet letters O,A,E, and U. Since alphabet letters are simple, well-known "words", they are suitable for the beginning exercise in communication study. Scarcely any child is so young that he cannot "receive" alphabet letter words. The exercise is simple enough that it may also be used with adults who are apprehensive about their ability to learn new tricks. From the easiest vowels the exercise should progress to the more difficult vowels. Consonant study should follow, and again the easiest consonants should be studied first. The alphabet letter words provide good beginning material for communication practice. Learning theory suggests to the teacher that sounds in isolation are less well taught than sounds in a simple but meaningful reference. Rather than teach by isolated sound or nonsense syllable, instruction proceeds at a faster pace when meaningful alphabet letter words are used instead of nonmeaningful sounds or syllables. Most sounds may be taught by alphabet letter words.

The following are some principles which may be considered when instructing the speech-reader.

Recognition vs. Description

Many lipreading methods devote much time to a description of lip and tongue positions or movements (Nitchie, Jena). Although gross signs should be explained (like the lip rounding in the sound O) attention to small differences like lip position between E and A is likely to produce little in recognition. In general, extensive description of tongue and lip positions or movements is not necessary to teaching speech-reading skill to the beginner. The job is recognizing speech through combined auditory and visual descrimination, but not describing the movement. The extensive description of movement supposes that the speech-reader has very limited residual hearing; and, although this may be necessary in instructing deaf children, it is seldom necessary in instructing the hard-of-hearing. Discrimination skill is best achieved through identification practice in a real speech situation.

Audible vs. Inaudible Speech

When speech is inaudible it is difficult to avoid exaggerated lip movement. The same is true of whispered speech. One of the clinical skills formerly taught to teachers of lipreading was that of presenting speech movement without sound and without exaggeration. To achieve this silent projection of speech it was even suggested that sound-proof booths be built to allow normal voiced speech to be used -- the sound treatment cutting off the voiced or audible portion of the signal.

It is not even desirable to eliminate the audible voice from speech-reading instruction. The value of inaudible voice is that it forces recognition without the accessory cue; it has value as a motivation. The lipreader will be reluctant to attent to visible cues when he can get audible cues. However, the audible cue is so much a real part of voice communication, even with hearing handicapped children and adults, that training should never be

done with inaudible voice alone. Audible voice should be used at least half the time in training -- more as the training progresses. It is true that exaggerated movements in speaking are not desirable, for they are unnatural and not likely to be found in the conversation that the hard-of-hearing person must follow.

Contextual vs. Non-contextual Exercises

It has already been stated that meaningful material is more likely to achieve results than nonsense. Hence, exercises for the most part and where practicable, should employ words rather than isolated sounds or nonsense syllables. However, more practice is possible when key word exercises are presented to the trainee rather than sentences or connected speech. The sentence contains many "filler" words that need not be understood. These contribute little to discrimination practice. The meaning of a sentence is carried, frequently, by a single word or a few words, which if misunderstood will negate the meaning. It seems expedient to provide a chain of unrelated words for recognition-identification practice, each of which must be identified. If a word is identified, not because it is heard or seen, but because of its relation to another word or words in the sentence structure, neither the auditory nor visual cue can account for the identification. This is not the primary skill we are trying to teach. Identification from context, although important, is reserved for a later period in training when the fundamentals of audio-visual discrimination are employed to read connected speech. It is well known that phrases and sentences are easier to read than words, but the relationship between the two is very high -- the better the word recognition the better the sentence recognition.

Group vs. Individual Instruction

The greatest value of group instruction is that it permits the teacher to attend to a greater number of trainees. Group instruction in speech-reading ha

some advantages over individual instruction other than economy of teacher time. Any work in voice communication must consider at least two persons, a talker and a listener. This makes it possible for students to work in teams of two, one being the talker and the other the listener. The exercises that follow are designed for group work, although they may also be used in individual instruction. Talker-listener teams may work under the supervision of an instructor. Usually the number in the group should be four or six.

The social advantages of group work are many. Working with someone else in a team operation is good training for the hearing handicapped child. The communication game used as an exercise permits scoring of listener performance and presents a good check on activity. The write-down response following the presentation of the exercise line does not permit the child to avoid work. The fact that it is a game provides motivation. These scored exercises at the same time make the work interesting and competitive while allowing each talker-listener team to be a self-sufficient practice team under teacher direction.

What Sounds in What Order?

Easy sounds should be taught first; difficult ones later. Certain sounds that have little or no visual component need not be taught at all. It is important that the initial lessons be successful so that the trainee may continue with confidence. For this reason it was suggested that vowel sounds were more favorable than consonants for beginning work and the most visible vowels better than less visible ones. Such is the organization of these exercises. The visible consonants should be studied next. The highly readable sounds, from the standpoint of vision, make up about 40% of the speech sounds. These should be capable of identification almost all of the time to form the basis for speech recognition. If these sounds may

may be identified with accuracy, hearing and synthesis will allow for the recognition of connected speech. The sounds with low visibility-readability ratings need not be studied at all except in connected speech.

This exercise booklet provides the training in the fundamentals of speech-reading. Further practice with connected speech may be used to continue the work. It is well to use dialogues, one-act plays, and situational conversations to effect this further improvement.

The following is an arbitrary classification of the visual readability of vowels and consonants that may serve as a guide in determining the difficulty of sounds.

High Readability (vowels)	High Readability (consonants)	Poor Readability (consonants)
oo as in tooth	p as in pie	d as in dog
a as in cat	b as in buy	t as in tin
aw as in saw	f as in face	n as in now
o as in boat	v as in vine	r as in rich
ee as in see	th as in thin	k as in king
ah as in lock	th as in then	g as in go
i as in my	m as in mice	ng as in sing
oy as in boy	ch as in chew	h as in house
a as in bake	j as in jam	
	sh as in show	(vowels)
	s as in see	
	z as in zebra	i as in big
		u as in cup
		u as in good
		e as in ten

References

1. "Speech Reading-Jena Method" Bunger, Anna M. Interstate Publishers, Danville, Illinois. 1944.

2. "Problems of Speech Comprehension in Deaf Children" Hudgins, Clarence V. The Nervous Child, Volume 9, #1, Jan. 1951.

3. "Lip-Reading: Principles and Practice." Nitchie, Edward B. Frederick Stokes Company, New York, 1930.

4. "Contributions of Visual Components of Oral Symbols to Speech Comprehension." O'Neill, John J. The Journal of Speech and Hearing Disorders. Volume 19, #4, December, 1954.

5. "Auditory Training: Its Possibilities and Limitations" C. V. Hudgins. Reprint #652, The Volta Bureau, 1537 35th St. NW, Washington 7, D.C.

Chapter II Evaluation of Communication

The non-medical handicap of impaired hearing is the extent to which the person is unable to receive communication as it is spoken to him in a face-to-face situation. To measure the extent of this handicap as well as the improvement made by training the person, some method should be used to assign a value to his ability to receive this communication.

The easiest way to do this would be to talk with the person and judge from his answers to questions just how much he is able to comprehend. Such a procedure would not permit comparative scores, for the content would vary too much. A set list of sentences requiring specific answers to indicate speech reception would be better. Yet sentence tests are bulky and hard to equate for difficulty in communication. To have twenty different lists of sentences, each no more or less difficult than another, would take hundreds of sentences, considerable space in a book, great difficulty in recording and scoring, and much more administration time than would be practicable. The following communication tests, which may be used either for speaking or listening (receiving) evaluation, have identical content so far as the alphabet letter words are concerned, equal difficulty so far as the lists are concerned, and sixty-seven scorable items that may be administered and easily recorded in a couple of minutes. They are easy enough to be used with most handicapped children. They are known to have considerable reliability and validity in a voice communication situation (1).

The twenty lists that follow are designed to measure the amount of voice communication that may be either sent or received by handicapped children. As a test of receiving speech, it is suggested that three steps be undertaken: (1) with visual cues only (2) with auditory cues only, and (3) with both visual and auditory cues. The measure that best indicates the student's ability in face-to-face conversation is the third--the amount of speech heard and seen

when the speaker uses live voice, facing the receiver at a distance of from 6-10 feet (or any fixed distance common to ordinary conversation). It is also possible to measure the effect of a hearing aid by presenting one list without an aid and another list with an aid.

Each line is preceded by a carrier phrase, "Number one is ....", "Number two is ....", and so on. The carrier phrase alerts the receiver, provides a sentence-like form for the message line, and provides a familiar introduction to each message line. The carrier phrase is neither written down on the response sheet nor scored. Its purpose is to expedite the receiving. Each alphabet letter is scored separately. The total number of items that may be communicated is sixty-seven. Efficiency is computed as the per cent of sixty-seven items correctly sent or received.

Voice Communication List 1

Part I

1.	pool	sum
2.	kite	gum
3.	thin	show
4.	read	cheese
5.	rich	sing
6.	blue	rain
7.	steep	scar
8.	fine	pink

Part II

1. TNV
2. SLD
3. MTB
4. KFP
5. GZJ
6. MLS
7. VTC
8. NTF
9. DGM
10. KCN
11. FPZ
12. BDT
13. NHK
14. VLT
15. SND
16. ZBG
17. PLG

Voice Communication List 2

Part I

1.	thumb	cool
2.	tight	gun
3.	tin	sew
4.	weed	tease
5.	witch	thing
6.	glue	raid
7.	steam	star
8.	ache	sail

Part II

1. LBT
2. MTN
3. VPK
4. FJG
5. ZSM
6. LCT
7. VNT
8. FGM
9. DCN
10. KFP
11. ZDB
12. THN
13. KLV
14. TSN
15. DBG
16. ZLP
17. GDS

Voice Communication List 3

Part I

1.	park	calf
2.	fruit	long
3.	paint	mail
4.	rain	store
5.	race	black
6.	price	feed
7.	fade	drum
8.	rest	seat

Part II

1. VTN
2. DSL
3. BTM
4. KPF
5. GJZ
6. SLM
7. TCV
8. TNF
9. DMG
10. NKC
11. PZF
12. TDB
13. NKH
14. LTV
15. DNS
16. GZB
17. LPG

Voice Communication List 4

Part I

1.	tooth	scene
2.	run	grade
3.	twin	ride
4.	chain	side
5.	mine	read
6.	pain	tree
7.	sick	crown
8.	vine	pick

Part II

1. LDS
2. MBT
3. VNT
4. FPK
5. ZJG
6. LSM
7. VCT
8. FNT
9. DGM
10. KNC
11. ZPF
12. TBD
13. KNH
14. TLV
15. DSN
16. ZBG
17. GLP

Voice Communication List 5

Part I

1.	bone	came
2.	ten	soak
3.	soup	big
4.	taste	mouse
5.	note	line
6.	curl	brass
7.	sat	dry
8.	gate	wail

Part II

1.	LTN	10.	KFB
2.	MPK	11.	ZPD
3.	VJG	12.	TLV
4.	FSM	13.	KNS
5.	ZCT	14.	TBG
6.	LTN	15.	DLP
7.	VMG	16.	ZDS
8.	FCN	17.	GBT
9.	DFP		

Voice Communication List 6

Part I

1.	tool	fun
2.	pipe	come
3.	fin	snow
4.	lead	cheap
5.	rib	wing
6.	clue	range
7.	speed	spar
8.	sign	pick

Part II

1.	MTD	10.	ZFN
2.	VTB	11.	TDP
3.	FKN	12.	CHB
4.	ZGL	13.	TVN
5.	LMJ	14.	DNL
6.	VTS	15.	ZGS
7.	FTC	16.	GPB
8.	DNM	17.	PLS
9.	KCG		

Voice Communication List 7

Part I

1.	bark	gas
2.	flute	log
3.	bait	nail
4.	wait	score
5.	waste	plan
6.	prize	seed
7.	shade	plum
8.	wet	treat

Part II

1.	MDT	10.	ZNF
2.	VBT	11.	TPD
3.	FNK	12.	KBH
4.	ZLG	13.	TNV
5.	LJM	14.	DLN
6.	VST	15.	ZSG
7.	FCT	16.	GBP
8.	DMN	17.	PSL
9.	KGC		

Voice Communication List 8

Part I

1.	boat	game
2.	pen	soap
3.	suit	pig
4.	paste	mouth
5.	nose	light
6.	girl	grass
7.	fat	cry
8.	cake	rail

Part II

1.	VTB	10.	TFP
2.	FTN	11.	CDB
3.	ZKL	12.	THN
4.	LGJ	13.	DVL
5.	VMS	14.	ZNS
6.	FTC	15.	GLB
7.	DTM	16.	PGS
8.	KNG	17.	MPD
9.	ZCN		

Voice Communication List 9

Part I

1.	arm	cat
2.	flew	lock
3.	bake	main
4.	rain	sore
5.	raise	lack
6.	shape	crumb
7.	pride	feet
8.	vest	sleep

Part II

1.	BVT	10.	PTF
2.	NFT	11.	BCD
3.	LZK	12.	NTH
4.	JLG	13.	LDV
5.	SVM	14.	SZN
6.	CFT	15.	BGL
7.	MDT	16.	SPG
8.	GKN	17.	DMP
9.	NZC		

Voice Communication List 10

Part I

1.	boy	cake
2.	school	pear
3.	broom	hen
4.	knife	pill
5.	tag	lump
6.	sleeve	move
7.	sox	comb
8.	men	ray

Part II

1.	TNV	10.	FBT
2.	TLF	11.	DNC
3.	KJZ	12.	HLT
4.	GSL	13.	VSD
5.	MCV	14.	NBZ
6.	TMF	15.	LSG
7.	TGN	16.	GPD
8.	NKD	17.	PBM
9.	CPZ		

Voice Communication List 11

Part I

1.	tune	steam
2.	one	grape
3.	trim	ripe
4.	change	sigh
5.	line	reach
6.	paid	tea
7.	slick	brown
8.	aid	snail

Part II

1.	TBV	10.	FPT
2.	TNF	11.	BDC
3.	KLZ	12.	HNT
4.	GJL	13.	VLD
5.	MSV	14.	NSZ
6.	TCF	15.	LBG
7.	TMD	16.	GSP
8.	NGK	17.	PDM
9.	CNZ		

Voice Communication List 12

Part I

1.	joy	game
2.	stool	hair
3.	ruin	hem
4.	night	sill
5.	see	noon
6.	tank	hum
7.	box	poem
8.	ten	white

Part II

1.	NVT	10.	BTF
2.	LFT	11.	NCD
3.	JZK	12.	LTH
4.	SLG	13.	SDV
5.	CVM	14.	BZN
6.	MFT	15.	SGL
7.	GNT	16.	PDG
8.	KDN	17.	BMP
9.	PZC		

Voice Communication List 13

Part I

1.	knee	rice
2.	skin	mean
3.	bug	sack
4.	smoke	case
5.	mice	toast
6.	hog	gum
7.	rail	file
8.	bump	spear

Part II

1.	LFT	11.	DLT
2.	TZJ	12.	HDS
3.	KLS	13.	VZB
4.	GVC	14.	NGS
5.	MFN	15.	LPD
6.	TMG	16.	GMB
7.	TDK	17.	PVN
8.	NZP		
9.	CTB		
10.	FNC		

Voice Communication List 14

Part I

1.	rat	back
2.	name	bird
3.	neat	rode
4.	whip	mess
5.	room	song
6.	seed	run
7.	say	great
8.	lame	brute

Part II

1.	ZLG	11.	BDS
2.	LTS	12.	DHZ
3.	VKC	13.	GVS
4.	FGN	14.	PND
5.	NCM	15.	MLB
6.	DTK	16.	VGN
7.	ZTP	17.	FPT
8.	TMB		
9.	NCL		
10.	CFT		

Voice Communication List 15

Part I

1.	pane	rest
2.	sun	wax
3.	mouse	swim
4.	rim	long
5.	ham	brake
6.	fill	coat
7.	jump	neck
8.	ride	wound

Part II

1.	LFT	11.	TLD
2.	JZT	12.	SDH
3.	SLK	13.	BZV
4.	CVG	14.	SGN
5.	NFM	15.	DPL
6.	CMT	16.	BMG
7.	KDT	17.	NVP
8.	PZN		
9.	BTC		
10.	CNF		

Voice Communication List 16

Part I

1.	lap	pass
2.	mane	turn
3.	mean	raw
4.	wool	test
5.	root	saw
6.	seat	red
7.	sale	green
8.	lace	broom

Part II

1.	JZL	11.	SBD
2.	SLT	12.	ZDH
3.	CVK	13.	SGV
4.	NFG	14.	DPN
5.	MCN	15.	BML
6.	KDT	16.	NVG
7.	PZT	17.	TFP
8.	BTM		
9.	LNC		
10.	TCF		

Voice Communication k ist 17

Part I

1.	rap	bat
2.	aim	burn
3.	meat	wrote
4.	wood	nest
5.	root	thaw
6.	seek	wren
7.	sail	greed
8.	late	prune

Part II

1.	JNK	11.	SGV
2.	SFG	12.	ZPN
3.	CDN	13.	SML
4.	NCT	14.	DVG
5.	MZT	15.	BFP
6.	KTM	16.	NZL
7.	PNC	17.	TLT
8.	BCF		
9.	LBD		
10.	TDH		

Voice Communication List 18

Part I

1.	tone	same
2.	pen	soap
3.	tooth	pig
4.	paste	loud
5.	no	mine
6.	girl	grass
7.	fat	cry
8.	vine	rail

Part II

1.	NKJ	11.	GVS
2.	FGS	12.	PNZ
3.	DNC	13.	MLS
4.	CTN	14.	VGD
5.	ZTM	15.	FTB
6.	TMK	16.	ZLN
7.	NCP	17.	PTL
8.	CFB		
9.	BDL		
10.	DHT		

Voice Communication List 19

Part I

1.	name	weed
2.	sum	rat
3.	house	swing
4.	ring	log
5.	pill	boat
6.	hand	great
7.	junk	nest
8.	wide	mice

Part II

1.	KJN	11.	VSG
2.	GSF	12.	NZP
3.	NCD	13.	LSM
4.	TNC	14.	GDV
5.	TMZ	15.	TBF
6.	MKT	16.	LNZ
7.	CPN	17.	TLP
8.	FBC		
9.	DLB		
10.	HTD		

Voice Communication List 20

Part I

1.	coat	gain
2.	pin	vote
3.	soon	pick
4.	waste	house
5.	most	lime
6.	curl	class
7.	that	fry
8.	cape	real

Part II

1.	NVT	11.	ZPF
2.	DLS	12.	DTB
3.	TMB	13.	HKN
4.	PKF	14.	LVT
5.	JZG	15.	NDS
6.	MSL	16.	BGZ
7.	CVT	17.	GPL
8.	FTN		
9.	MDG		
10.	NCK		

Lipreading Testing

Speech-reading should employ both the audio and visual channels of speech cue recognition. In this manner speech-reading should include both visual and auditory discrimination of the signs or cues that accompany speech. Of this process of speech reception, lipreading is the visual portion. It may be of some value, still, to separate the visual from the auditory function for purpose of diagnosis. The communication lists in this chapter are not well suited to a study of visual discrimination alone. To evaluate the lipreading or visual recognition skill, the following list of alphabet letters, words, and sentences is recommended. It may be used in either of two ways: (1) as a teacher-presented test with the teacher using inaudible voice, or (2) as a test on film projected to a class of speech-readers with responses written down.

The content of this test has been photographed on 16 mm. moving picture film and is available through the University of Illinois. Its use has been discussed in an article in the Journal of Speech and Hearing Disorders (1). Each test line in the moving picture film is separated from the others by blank film that allows each trainee time to write down what he sees in this projected silent film. The projector may be stopped if the time for write-down of responses is too short.

If the moving picture film is not available, the teacher may present the test to trainees by inaudible voice in a classroom and get some indication of the relative lipreading abilities of the students and the progress made in lipreading skill.

University of Illinois
Lipreading Test

Section I Alphabet Letters

1.	AOE	9.	IOJ
2.	YBU	10.	AGN
3.	IGM	11.	RYV
4.	URV	12.	BOE
5.	REH	13.	ABV
6.	BIU	14.	URE
7.	JFC	15.	OLA
8.	HYM		

Section II Words out of Context

1.	Number one is	whisper	shoe	
2.	Number two is	window	baseball	
3.	Number three is	picture	fish	
4.	Number four is	brother	watch	
5.	Number five is	baby	soap	
6.	Number six is	boy	apple	touch
7.	Number seven is	mother	sidewalk	radio
8.	Number eight is	shadow	pencil	face
9.	Number nine is	telephone	supper	cowboy
10.	Number ten is	movie	airplane	music

Section III Sentences-Connected Speech

1.	Thank you very much	6.	We like baseball.
2.	We saw the show.	7.	Wash your face.
3.	What is your name?	8.	Brush your teeth.
4.	Open the window.	9.	I have a new watch.
5.	How are you this morning?	10.	What time is it?

This test, either when given by the teacher or projected, should be given in a room free from distracting noise. Even though it is a test of visual recognition of speech, distracting noise will interfere with the attention given to the test lines. Care should be taken to see that there is plenty of light and that each pupil has a good opportunity to see. In so far as physical conditions permit, each child should be about the same distance away from the speaker and viewing from extreme angles should be avoided. Care must also be taken not to rush the viewer on his written responses; this will also lower the score. The viewer should get only one chance at each test line--

none should be repeated. This will be possible if a satisfactory explanation and a trial run of each section precedes the test; the procedure must be understood.

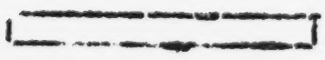
Reference

1. Kelly, J.C. "A Summer Residential Program in Hearing Education." Journal of Speech and Hearing Disorders. Vol. 19, #1, March, 1954.

LESSONS IN SPEECH READING

The first lesson should be an easy one that the beginning speech-reader may be expected to complete with ease. In order to insure initial success, the beginning lesson considers the communication of four "words", A, E, O, and U. These "words" have certain characteristics that make them useful in the introduction of audio-visual discrimination of speech. They are vowels or diphthongs -- thus they are louder than other sounds and the supplementary auditory cue may be used. Two of them involve one of the two basic lip movements of vowels and the other two involve the second. Lastly, they are the easiest of all vowel sounds to identify.

The teacher should present the two basic shapes of front and back vowels by drawing on the board a circle indicating lip-rounding and a bar representing the slit of front vowel formation. Under each of these two drawings should be listed the two letters, as follows:



A

E

U

O

Practice in the following Exercise 1 should involve the recognition of these four "words" by write-down. Before trying the write-down response test, the teacher should have a practice identification using voice and inaudible speech. The exercise should be scored twice, once with and once without voiced sound. Alphabet letter blocks may be used if props will make the lesson any more interesting. The same procedure should be used in the two and three series exercises -- audible and silent scores being used.

Lesson I Vowels

Exercise 1

After recognition practice the teacher will give the following letters in conversational voice to students seated 4-6 feet away in a face-to-face situation. Students will write down the letters they hear and see. Use carrier phrase, "Number one is---".

Test 1 Audible			
1.	O	11.	O
2.	E	12.	A
3.	A	13.	E
4.	O	14.	U
5.	E	15.	A
6.	U	16.	E
7.	A	17.	O
8.	O	18.	E
9.	U	19.	U
10.	E	20.	E

Answer Sheet Test 1			
1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Now the teacher should try the same procedure but without audible speech to see what the students can do with lipreading alone.

Test 2 Silent			
1.	A	11.	E
2.	U	12.	O
3.	E	13.	A
4.	O	14.	E
5.	U	15.	U
6.	A	16.	A
7.	O	17.	E
8.	E	18.	O
9.	O	19.	U
10.	A	20.	E

Answer Sheet Test 2			
1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Exercise 2

The next step in hearing and seeing speech is the "chain of words" factor. Two alphabet letters will be seen rather than one. The letters Y and I are added for variety.

Test 3 Audible			
1.	EU	11.	UY
2.	OE	12.	IO
3.	AO	13.	YA
4.	UO	14.	OY
5.	OA	15.	OU
6.	UE	16.	AE
7.	IE	17.	EO
8.	EO	18.	YI
9.	EE	19.	OE
10.	YO	20.	IE

Answer Sheet Test 3			
1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

The same type exercise should be given again without audible voice.

Test 4 Silent			
1.	OU	11.	EA
2.	EO	12.	OU
3.	AE	13.	IE
4.	YU	14.	YO
5.	EI	15.	OE
6.	AO	16.	AI
7.	EY	17.	UI
8.	UE	18.	EO
9.	AI	19.	YI
10.	OI	20.	OY

Answer Sheet Test 4			
1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

Exercise 3

A trio of letters instead of two make up the third practice on alphabet letters. This will extend the effort of the student somewhat and will be more difficult than one or two item recognition.

Test 5 Audible			
1.	OEA	11.	IOE
2.	EOY	12.	UIA
3.	UEU	13.	OEI
4.	AEA	14.	YOI
5.	AOE	15.	EAY
6.	EOE	16.	OOE
7.	IOU	17.	AEY
8.	OAY	18.	EIY
9.	UAY	19.	AOU
10.	EIO	20.	AIO

Answer Sheet Test 5			
1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

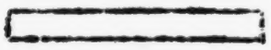
The same communication drill is now tried without audible voice.

Test 6 Silent			
1.	EIO	11.	YAI
2.	UYE	12.	EIO
3.	OIA	13.	AYA
4.	AEY	14.	OEA
5.	UIO	15.	IOI
6.	AEO	16.	AIE
7.	EYA	17.	UIA
8.	UIE	18.	IOE
9.	OUA	19.	AYO
10.	IEY	20.	EOI

Answer Sheet Test 6			
1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

Lesson II Vowels

Lesson I dealt with easy alphabet letter words, AEOUY and I. Lesson II will also deal with vowel sounds but we will try to use some words that are suited just to this lesson. We will label or spell some sounds as follows:



ee as in weed
eh as in eh!
a as in cat

oo as in toot
oh as in oh!
aw as in saw
ah as in hah

Demonstrate that lip position and movement will follow the above diagram, rounding for the sounds in the right column and slit lips for those on the left. Then have the students identify the following sounds by repeating them when the teacher uses sound and facial gesture to mean the following:

ah! (that's good)
aw! (that's a shame)
oh! (I'm surprised)
oo! (it's cold)
eh! (what did you say?)
a! (that tastes terrible)
ee! (look out)

Now the communication drill may be undertaken with audible voice. Have the students learn to identify the sounds with the above spellings for recording purposes.

Drill 1 Audible

1.	ah	11.	oh
2.	ee	12.	aw
3.	aw	13.	ah
4.	oh	14.	eh
5.	a	15.	ee
6.	eh	16.	oo
7.	oo	17.	eh
8.	aw	18.	ah
9.	ee	19.	oh
10.	a	20.	a

Answer Sheet Test 1

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Drill 2 Silent

1.	ee	11.	eh
2.	oh	12.	ah
3.	a	13.	oh
4.	aw	14.	ee
5.	ah	15.	eh
6.	oo	16.	oh
7.	eh	17.	a
8.	oh	18.	oh
9.	oo	19.	aw
10.	aw	20.	ah

Answer Sheet Test 2

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

The second portion will use two sounds rather than one; they should be recorded and scored in the same way as previous drills.

Drill 3 Audible

1.	ah	oh	11.	aw	oo
2.	ee	aw	12.	oh	eh
3.	a	eh	13.	a	ah
4.	aw	oo	14.	oh	ee
5.	ah	ee	15.	ah	oo
6.	eh	aw	16.	ee	ah
7.	ee	ah	17.	aw	a
8.	eh	ah	18.	eh	ee
9.	oh	ah	19.	oh	aw
10.	ah	eh	20.	a	oh

Answer Sheet Test 3

1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

Drill 4 should use inaudible voice.

Drill 4 Silent

1.	oh	ee	11.	aw	eh
2.	aw	ah	12.	oh	ee
3.	a	oh	13.	ah	oo
4.	ee	aw	14.	oh	a
5.	eh	ah	15.	eh	ee
6.	oo	oh	16.	eh	a
7.	aw	ah	17.	aw	a
8.	eh	ee	18.	oh	eh
9.	aw	oo	19.	a	oh
10.	oo	ah	20.	ah	aw

Answer Sheet Test 4

1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

Miscellaneous Drills

The following are word drills employing words that are simple and belonging to a particular family. The student may know that all words will be, in any given drill, related to the family. Each one can be given with audible and inaudible voice. The first set communicates numbers between one and nine.

Drill 5

1.	two	6.	eight
2.	one	7.	nine
3.	three	8.	four
4.	six	9.	seven
5.	nine	10.	five

Drill 6

1.	six four	6.	two eight
2.	nine seven	7.	five one
3.	four two	8.	nine four
4.	one five	9.	three two
5.	three five	10.	seven four

The following involve the family of color names.

Drill 7

1.	green	6.	blue
2.	white	7.	gray
3.	brown	8.	red
4.	yellow	9.	black
5.	black	10.	violet

Drill 8

1.	red green	6.	green yellow
2.	white gray	7.	pink white
3.	white brown	8.	brown blue
4.	blue black	9.	black white
5.	yellow red	10.	red blue

Lesson III Consonants

The consonant sounds most suited to a beginning lesson are the "p", "b" and "m". These may be represented by the alphabet letter "words", P, B, and M. The visible cue for recognizing these sounds is the compression of the lips, completely closing the mouth. This should be demonstrated but not labored. It is more important that the sounds be easily identified by vision, although it is more difficult to discriminate the P from B or the P from M. It should be noted, however, that the P and B are not visually identical and a good speech reader can often tell one from the other. the P is usually shorter in duration than B in most syllables. This factor of discrimination is not of great importance at this stage of training however.

Drill 1 Audible

1.	PA	11.	RB
2.	MI	12.	MY
3.	OM	13.	MP
4.	EB	14.	BY
5.	OE	15.	PM
6.	ME	16.	AP
7.	PY	17.	MB
8.	MI	18.	AM
9.	IB	19.	UP
10.	EM	20.	IB

Answer Sheet Test 1

1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

Drill 2 Silent

1.	BU	11.	EM
2.	PA	12.	PE
3.	OM	13.	BO
4.	BA	14.	MP
5.	PB	15.	AB
6.	BY	16.	PM
7.	OP	17.	BA
8.	MI	18.	UM
9.	MB	19.	BE
10.	BP	20.	PO

Answer Sheet Test 2

1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

Recognize and call back the following phrases or sentences. It is possible to conduct these as write-down exercises but not necessary in this part of the training.

1. Pass the potatoes.
2. Pay the paperboy.
3. Move the picture.
4. Mail the package.
5. Bake a pie.
6. Pick the peaches.
7. Play the piano.
8. Meet the people.
9. Buy a bushel.
10. Run a mile.

The following game is based on three rather than two letters.

Drill 4 Audible

1.	MEB	11.	PMA
2.	YBY	12.	BEO
3.	BEB	13.	AYM
4.	EOB	14.	EBI
5.	BMA	15.	BOP
6.	MUB	16.	APL
7.	BUP	17.	EBA
8.	OPM	18.	IBO
9.	MOI	19.	EPM
10.	UMP	20.	OIM

Answer Sheet Test 4

1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

Drill 5 Silent

1.	BEM	11.	MAP
2.	YBO	12.	EBO
3.	BAE	13.	MYA
4.	BEO	14.	BIE
5.	MAB	15.	POB
6.	BUM	16.	PYA
7.	PMB	17.	ABE
8.	MPO	18.	OBI
9.	OIM	19.	MPE
10.	PMU	20.	MOI

Answer Sheet Test 5

1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

Lesson IV Consonants f, v.

A second group of consonants that are easily recognizable are the "f" and "v". The student should be made aware of the difference between the sounds, voiced and voiceless, and the visible sign -- the upper teeth on the lower lip -- should be demonstrated. From this point on the principal task is recognizing the sound and the description is secondary. The amount of discussion of the position and movement of the sound is optional with the teacher. The basic "words" used to illustrate this sound are the letter names F and V.

Drill 1 Audible

1.	OV	11.	FE
2.	VB	12.	BF
3.	MV	13.	FM
4.	AF	14.	VM
5.	VE	15.	BV
6.	OF	16.	VF
7.	FV	17.	VB
8.	FA	18.	BU
9.	VE	19.	OV
10.	EF	20.	OF

Answer Sheet Test 1

1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

Drill 2 Silent

1.	FV	11.	OF
2.	UB	12.	VE
3.	MV	13.	VB
4.	AF	14.	MV
5.	VE	15.	FM
6.	UV	16.	FO
7.	EV	17.	IF
8.	YV	18.	VF
9.	EV	19.	VB
10.	FB	20.	YB

Answer Sheet Test 2

1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

The following phrases may be used for a communication drill on a call-back or a write-down basis.

Drill 3 Audio-visual or Visual Only

1. I feel fine.
2. I caught a fish.
3. He's a funny boy.
4. I like vanilla ice cream.
5. We had a fine vacation.
6. Fire the furnace.
7. Visit the village.
8. I have five fingers.
9. Fill the vase.
10. Today is Friday.

Drill 5 Audible

1.	VEF	11.	IFM
2.	AVI	12.	VIF
3.	FVF	13.	OIV
4.	OBV	14.	AEV
5.	MFM	15.	VFA
6.	EFA	16.	FBV
7.	FFB	17.	AVE
8.	MFB	18.	OIF
9.	VOI	19.	VFV
10.	FOB	20.	MVF

Answer Sheet Test 5

1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

Drill 6 Silent

1.	EFA	11.	VFM
2.	BVF	12.	EAV
3.	OFE	13.	MFO
4.	FIV	14.	VBI
5.	YVM	15.	IFY
6.	OAF	16.	VIV
7.	FEV	17.	UFV
8.	EMF	18.	OIF
9.	BFV	19.	MYI
10.	FUV	20.	VYF

Answer Sheet Test 6

1.	_____	11.	_____
2.	_____	12.	_____
3.	_____	13.	_____
4.	_____	14.	_____
5.	_____	15.	_____
6.	_____	16.	_____
7.	_____	17.	_____
8.	_____	18.	_____
9.	_____	19.	_____
10.	_____	20.	_____

Short Story--Aesop's Fable

A young fawn once said to his mother, "You are larger than a dog, can run faster, and you have horns which you can use. Why are you so afraid of dogs?"

The mother answered, "I know that everything you say is true. But every time I hear a dog bark, I am frightened and run away as fast as I can."

No arguments will give courage to a coward.

Questions:

1. What is a fawn?
2. Are deer afraid of dogs?
3. Why should a deer not be afraid of dogs?
4. Does a deer ever try to find out if it should be afraid of dogs?
5. What does the last sentence mean?

Lesson V Connected Speech

The following game is a directions test. A student can indicate that he hears the direction by doing what he is told to do. For instance, if the direction is "Wave your hand," and the student waves his hand, it is obvious that he received the direction. Give the exercise both with audible voice and as silent communication. It is a model for other exercises that may be used or additions to this one.

1. Point to the window.
2. Put your finger on the side of your nose.
3. Hold up two fingers.
4. What number comes after seven?
5. How do you spell the word "watch."?
6. How many eyes do you have?
7. Is the sun shining?
8. Which do you like best--milk or lemonade?
9. How old were you on your last birthday?
10. Point to your right shoe.
11. How much are two and two?
12. How many people are there in your family?
13. What is your father's first name?
14. How many fingers do you have on one hand?
15. How much are five and three?
16. Do you have any brothers?
17. Put your finger on your chin.
18. What color is your hair?
19. How many nickels are there in a quarter?
20. How do you spell the word "man."?

Lesson VI Consonants

Among the most easily recognized consonant sounds are the two "th" sounds. One is voiced, as in the word "then" and the other is voiceless, as in the word "thin". These two sounds are not alike even though spelled the same way. To make the sound the tip of the tongue is put on the cutting edge of the upper teeth. This can be seen and the "th" sounds are quite visible. The "th" sounds are likely to be confused with "t", "d", and "s". There is no alphabet letter for "th" so we must use words for discrimination practice.

Recognize and call back or write down the following short messages. Use both audible and inaudible voice.

Drill 1 Audible

1. I think so.
2. Thank you very much.
3. He blew the feather.
4. The weather is nice.
5. This is thick soup.
6. He hurt his thumb.
7. I lost the thimble.
8. He thought so.
9. He coughed three times.
10. A dime is thin.

Drill 2 Silent

1. We thought so.
2. I thank you.
3. It was light as a feather.
4. The weather is warm.
5. He cut his thumb.
6. I found the thimble.
7. What do you think?
8. We walked three miles.
9. He was a thin man.
10. Give me the other one.

Short Story--Aesop Fable

A boy put his hand into a jar to get some nuts. He took as many as he could hold in his hand, and when he tried to take them out he could not get his hand past the neck of the jar. He was unable to let loose of the nuts and yet could not get his filled hand out of the jar. A man, watching him do this said, "Be satisfied with half the amount and you can easily get your hand out."

Questions:

1. What was the boy trying to get out of the jar?
2. Why couldn't he get his hand out?
3. What was the solution to the problem?

Lesson VII Consonants

Three consonant sounds having a high visibility rating are "ch", "sh", and j. All three are alike in that the lips are puckered or protruded for these sounds. The recognition can be demonstrated by three alphabet letter names, H, J, and G. The following exercises give discrimination practice.

Drill 1 Audible

1.	JE	11.	AH
2.	MH	12.	BG
3.	JH	13.	MJ
4.	GM	14.	HG
5.	JG	15.	OG
6.	HE	16.	GA
7.	GE	17.	JO
8.	AH	18.	JB
9.	JM	19.	IG
10.	YH	20.	IJ

Answer Sheet Test 1

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Drill 2 Silent

1.	MJ	11.	JB
2.	OJ	12.	AG
3.	GO	13.	GH
4.	HA	14.	JI
5.	GI	15.	EG
6.	UJ	16.	AH
7.	YH	17.	GJ
8.	IG	18.	HE
9.	HG	19.	GB
10.	JO	20.	UG

Answer Sheet Test 2

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

The following sentences are to be used in communication practice with both audible and inaudible voice--both as call back and write-down exercises.

Drill 3 Audible and Inaudible

1. We saw the show.
2. I have a new pair of shoes.
3. It was a funny joke.
4. We know a boy named Joe.
5. Jack and Jill went up the hill.
6. We played checkers.
7. He was an Indian chief.
8. My brother lives in Chicago.
9. Don't push and shove.
10. Is the sun shining?

Short Story--Aesop Fable

A dog, crossing a bridge over a stream, with a bone in his mouth, saw his own shadow in the water. He thought that it was another dog with a bigger bone. He then dropped his own bone and tried to get the bone away from the other dog. He lost both of them. his own bone because it fell in the water, and the other one because it was only a shadow.

The following are three letter communication drills.

Drill 4 Audible

1.	JAH	11.	GJH
2.	GMB	12.	AMG
3.	JHM	13.	EBH
4.	OGY	14.	AHJ
5.	YJU	15.	IJM
6.	OBJ	16.	UGH
7.	JOG	17.	YFH
8.	VAJ	18.	JVF
9.	UHG	19.	GYM
10.	PFJ	20.	GMP

Answer Sheet Test 4

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Drill 5 Silent

1.	JVP	11.	HGM
2.	GFJ	12.	UIH
3.	AEG	13.	OIJ
4.	YJI	14.	HIH
5.	POJ	15.	GHJ
6.	IOY	16.	FHI
7.	EYH	17.	YHJ
8.	UYG	18.	HJO
9.	FJB	19.	JMG
10.	GUY	20.	MJH

Answer Sheet Test 5

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Lesson VIII Consonants

The consonants that will receive specific attention in this lesson are the "s" and "z" sounds. These sounds are represented by the convenient "words" S, Z, and C. Although the sibilant sounds were until recently thought to be difficult to hear from the standpoint of both audition and vision, there is recent evidence to show that the sound is much easier to hear and see than previously thought. Because of its frequency in English speech, it is wise to consider the sibilant sounds as separate units.

Drill 1 Audible

1.	ES	11.	SI
2.	ZI	12.	IC
3.	EZ	13.	CM
4.	FS	14.	ZF
5.	CS	15.	IZ
6.	MZ	16.	SZ
7.	OZ	17.	CP
8.	CU	18.	UC
9.	VC	19.	UZ
10.	ZI	20.	CO

Answer Sheet Test 1

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Drill 2 Silent

1.	SU	11.	CS
2.	JC	12.	GC
3.	HV	13.	HS
4.	VC	14.	SM
5.	IS	15.	CY
6.	EC	16.	CF
7.	AC	17.	VC
8.	HY	18.	GS
9.	GU	19.	SO
10.	FC	20.	CG

Answer Sheet Test 2

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Drill 3 Audible

1.	ICY	11.	COS
2.	SAZ	12.	COG
3.	VCS	13.	OIC
4.	GIC	14.	EYS
5.	MFC	15.	UCS
6.	HIZ	16.	VIC
7.	IUS	17.	ZES
8.	MIC	18.	VOZ
9.	FYZ	19.	ZIC
10.	HCM	20.	YBC

Answer Sheet Test 3

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Drill 4 Silent

1.	UCI	11.	OIS
2.	ACY	12.	UBC
3.	YUC	13.	CES
4.	HVC	14.	CYA
5.	OUC	15.	GSE
6.	MIZ	16.	FYS
7.	CPY	17.	VSM
8.	SEG	18.	JSI
9.	YBC	19.	JUC
10.	AGC	20.	OFM

Answer Sheet Test 4

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Drill 4 Audible and Silent

1. I saw the sign.
2. It's simple as ABC.
3. He saved five cents.
4. We went to the zoo.
5. We know his sister.
6. It's time for supper.
7. He played the saxaphone.
8. I rode on the sidewalk
9. May I see the sample?
10. Sit down for awhile.
11. Sugar is sweet.
12. Vinegar is sour.
13. Is the sun shining?
14. We saw the show.
15. I have a new pair of shoes.

Lesson X Miscellaneous Consonants

Many consonants have less than good visibility. The movement is more difficult to see and the identification is less certain. Some efficiency can be obtained through practice identification though, so we will include one lesson on the identification of the more difficult consonants. These are represented by the alphabet letters D, T, R, L, N. These sounds are semi-visible, but with the accompaniment of sound may be fairly well received.

Drill 1 Audible

1.	RB	11.	DY
2.	NO	12.	TC
3.	LI	13.	YL
4.	HR	14.	MR
5.	MN	15.	IT
6.	TV	16.	ID
7.	RS	17.	LJ
8.	PR	18.	AD
9.	FL	19.	LG
10.	OT	20.	TC

Answer Sheet Test 1

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Drill 2 Audible

1.	RBO	11.	YDL
2.	SID	12.	GUR
3.	YLD	13.	MPN
4.	TON	14.	HYL
5.	DON	15.	ILU
6.	NYT	16.	GIV
7.	TNT	17.	DOS
8.	RLB	18.	LUR
9.	DYN	19.	NID
10.	ROV	20.	RAL

Answer Sheet Test 2

1.	____	11.	____
2.	____	12.	____
3.	____	13.	____
4.	____	14.	____
5.	____	15.	____
6.	____	16.	____
7.	____	17.	____
8.	____	18.	____
9.	____	19.	____
10.	____	20.	____

Drill 3 Audible

1. Wade the river.
2. Shut the door.
3. He has a new tie.
4. What road do we take?
5. We ate the orange.
6. Show me the door.
7. Tie the shoestring.
8. Drive the new car.
9. Give me the light.
10. Leave the room.

Face to Face Communication Drills

Communication Drill 1 Audible

1.	nail	pop	6.	meal	ease
2.	sign	tea	7.	dairy	fair
3.	pile	rave	8.	has	tie
4.	fine	sail	9.	team	paste
5.	boom	dizzy	10.	shoe	sun

Answer Sheet Test 1

1.	____	____	6.	____	____
2.	____	____	7.	____	____
3.	____	____	8.	____	____
4.	____	____	9.	____	____
5.	____	____	10.	____	____

Communication Drill 2 Audible

1.	sea	nap	6.	nine	teach
2.	name	bait	7.	show	wave
3.	day	shame	8.	page	beet
4.	peel	slip	9.	aid	ten
5.	knee	same	10.	zoo	gun

Answer Sheet Test 2

1.	____	____	6.	____	____
2.	____	____	7.	____	____
3.	____	____	8.	____	____
4.	____	____	9.	____	____
5.	____	____	10.	____	____

Communication Drill 3 Audible

1.	mail	top	6.	kneel	eve
2.	fine	sea	7.	berry	tear
3.	tile	wave	8.	have	pie
4.	sign	fail	9.	seem	taste
5.	boo	busy	10.	sue	fun

Answer Sheet Test 3

1.	____	____	6.	____	____
2.	____	____	7.	____	____
3.	____	____	8.	____	____
4.	____	____	9.	____	____
5.	____	____	10.	____	____

Communication Drill 4 Audible

1.	tea	map	6.	mine	peach
2.	mane	date	7.	so	ways
3.	bay	same	8.	sage	bead
4.	seal	flip	9.	eight	pen
5.	me	sane	10.	zoo	fun

Answer Sheet Test 4

1.	____	____	6.	____	____
2.	____	____	7.	____	____
3.	____	____	8.	____	____
4.	____	____	9.	____	____
5.	____	____	10.	____	____

Communication Drill 5 Audible

1.	boom	dizzy	shoe
2.	sun	paste	team
3.	sail	fine	tie
4.	has	rave	pile
5.	fair	dairy	tea
6.	sign	meal	ease
7.	pop	nail	bid
8.	go	leap	pail
9.	fill	tame	gaze
10.	left	miss	bat

Answer Sheet Test 5

1.	____	____	____
2.	____	____	____
3.	____	____	____
4.	____	____	____
5.	____	____	____
6.	____	____	____
7.	____	____	____
8.	____	____	____
9.	____	____	____
10.	____	____	____

Communication Drill 6 Audible

1.	fun	zoo	sane
2.	me	pen	ate
3.	flip	seal	bead
4.	age	same	bay
5.	ways	so	date
6.	mane	peach	dime
7.	map	tea	vest
8.	crew	fade	new
9.	note	do	crow
10.	time	save	cry

Answer Sheet Test 6

1.	____	____	____
2.	____	____	____
3.	____	____	____
4.	____	____	____
5.	____	____	____
6.	____	____	____
7.	____	____	____
8.	____	____	____
9.	____	____	____
10.	____	____	____

Lesson IX Discrimination

The following exercises are designed to improve communication through discrimination of words that sound alike. Each of the lists involves discrimination that is difficult for the impaired ear--for instance the difference between "mine" and "nine". However, when vision is added, this discrimination is much easier. Each of the word pairs involves a discrimination difficult by ear alone but much easier as an audio-visual identification.

The first portion of the drill should be a teacher-pupil activity with the pupil repeating the word pair after the teacher. No scoring is indicated in this procedure. The teacher will explain the differences, demonstrate them, and then check the student to see how well he can perform the identification. In the second portion of the exercise, these same words are included in a communication drill. As in previous exercises, both audible and inaudible speech is used and the differences in speech reception noted.

Word pairs

Difficult Auditory Discriminations

(m) - (n)	(v) - (z)	(f) - (s)
1. mail-nail	1. have-has	1. fine-sign
2. mane-name	2. wave-ways	2. fun-sun
3. meal-kneel	3. rave-raise	3. same-fame
4. same-sane	4. eve-ease	4. slip-flip
5. map-nap	5. veal-zeal	5. slash-flash
(t) - (p)	**(t) - (f)**	**(s) - (sh)**
1. top=pop	1. table-fable	1. sue-shoe
2. tile-pile	2. fair-tear	2. show-so
3. teach-peach	3. till-fill	3. shine-sign
4. taste-paste	4. tame-fame	4. shave-save
5. tail-pail	5. tact-fact	5. same-shame
(t) - (s)	**(d) - (b)**	**(p) - (s)**
1. tame-same	1. dizzy-busy	1. pail-sail
2. sea-tea	2. dairy-berry	2. page-sage
3. seem-team	3. day-bay	3. sane-pane
4. tie-sigh	4. date-bait	4. peel-seal
5. single-tingle	5. boom-doom	5. leap-lease

Lesson XI Connected Speech

A device that may be introduced at any stage in training is the "question about a picture" device. The center of the exercise is a picture mounted on cardboard so that it may be placed on a chalk ledge or table. It then provides a theme about which conversation may be centered, for the talking will concern the picture. The communication may be facilitated by pointing to objects in the picture, thus further limiting the subject of the questions. In this way, connected speech may be made easier and more effective. The picture should be fairly large so that it can be seen with ease. For instance, a picture advertising an automobile might be cut from a current magazine. The questioning might be something like this:

1. What is this?
2. What kind of an automobile is it?
3. What color is the automobile?
4. How many people are in the picture?
5. Is this a boy or a girl?
6. Which one is the father?
7. What is this over here, a river or a lake?
8. What is the man in the picture doing?
9. Is the picture taken in the city or in the country?
10. Would you like to have a new car?

Another device that may be used is the familiar phrase device. In this the same phrase or sentence is used each time with a single word changed. The phrase or sentence should develop some common yet fairly difficult word group such as "is it?" or "what do you?" or "can you?". Model exercises of this nature are below.

1. How do you feel?
2. How do you do?
3. How do you like it?
4. How do you know?
5. How do you want it?

1. What do you know?
2. What do you want?
3. What do you hear?
4. What do you say?
5. What do you see?

1. Is this a telephone?
2. Is this a radio?
3. Is this a violin?
4. Is this a rabbit?
5. Is this a ruler?

1. Can you see the tree?
2. Can you see the window?
3. Can you see the chair?
4. Can you see the sunset?
5. Can you see the house?

1. Where is the boy?
2. Where is the table?
3. Where is the picture?
4. Where is the sidewalk?
5. Where is the baseball?

1. I like to swim.
2. I like to run.
3. I like to play.
4. I like to work
5. I like to talk.

Lesson XII Additional Communication Drills

The following are word communication drills to be conducted as face-to-face communication with audible voice. They may be used as teacher-pupil or pupil-pupil communication.

Drill 1 Audible

1.	feed	egg
2.	fast	fruit
3.	crown	curl
4.	laugh	log
5.	new	dark
6.	big	rain
7.	ring	shape
8.	sky	score
9.	town	goat
10.	hat	grow

Drill 2 Audible

1.	boat	deed
2.	fly	guess
3.	gold	road
4.	hide	hop
5.	live	mad
6.	paint	bark
7.	bet	push
8.	rake	sand
9.	sore	wide
10.	wing	two

Drill 3 Audible

1.	bean	ache
2.	fat	root
3.	round	girl
4.	lap	lock
5.	moon	bark
6.	ink	shake
7.	spy	store
8.	pig	raid
9.	dowm	coat
10.	had	crow

Drill 4 Audible

1.	seed	keg
2.	fad	flute
3.	ground	pearl
4.	land	hog
5.	news	ark
6.	pick	rate
7.	rig	shade
8.	sly	snore
9.	count	go
10.	pad	row

Drill 5 Audible

1.	vote	weed
2.	try	gas
3.	cold	wrote
4.	side	mop
5.	light	mat
6.	saint	park
7.	pet	wish
8.	wait	hand
9.	more	wind
10.	wig	dew

Drill 6 Audible

1.	keen	ate
2.	sat	room
3.	pound	heard
4.	lad	rock
5.	noon	mark
6.	pink	ache
7.	big	ray
8.	town	note
9.	sigh	score
10.	add	road